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(54) Title: **FIDUCIAL MARKER HOLDER SYSTEM FOR SURGERY**

(57) **Abstract:** A fiducial marker holder apparatus (20, 120, 220) includes a maxillary holding device (50) and an open-ended frame (30, 130, 230). The maxillary holding device (50) is configured to be temporarily secured to only a maxillary-region of a patient. The open-ended frame (30, 130, 230) has first and second arms (32, 132, 232, 33, 133, 233) and is configured to be removably attached to the maxillary holding device (50). The first arm (32, 132, 232) has at least one marker attachment point (48a-48h, 148a-148n, 248a-248l) that receives fiducial markers (48) and the second arm (33, 133, 233) has a plurality of marker attachment points (48a-48h, 148a-148n, 248a-248l) that receive fiducial markers (48). At least two of the marker attachment points (48a-48h, 148a-148n, 248a-248l) of the second arm (33, 133, 233) are configured to receive fiducial markers (48) in different orientations with respect to the open-ended frame (30, 130, 230) and each other (48a-48h, 148a-148n, 248a-248l).